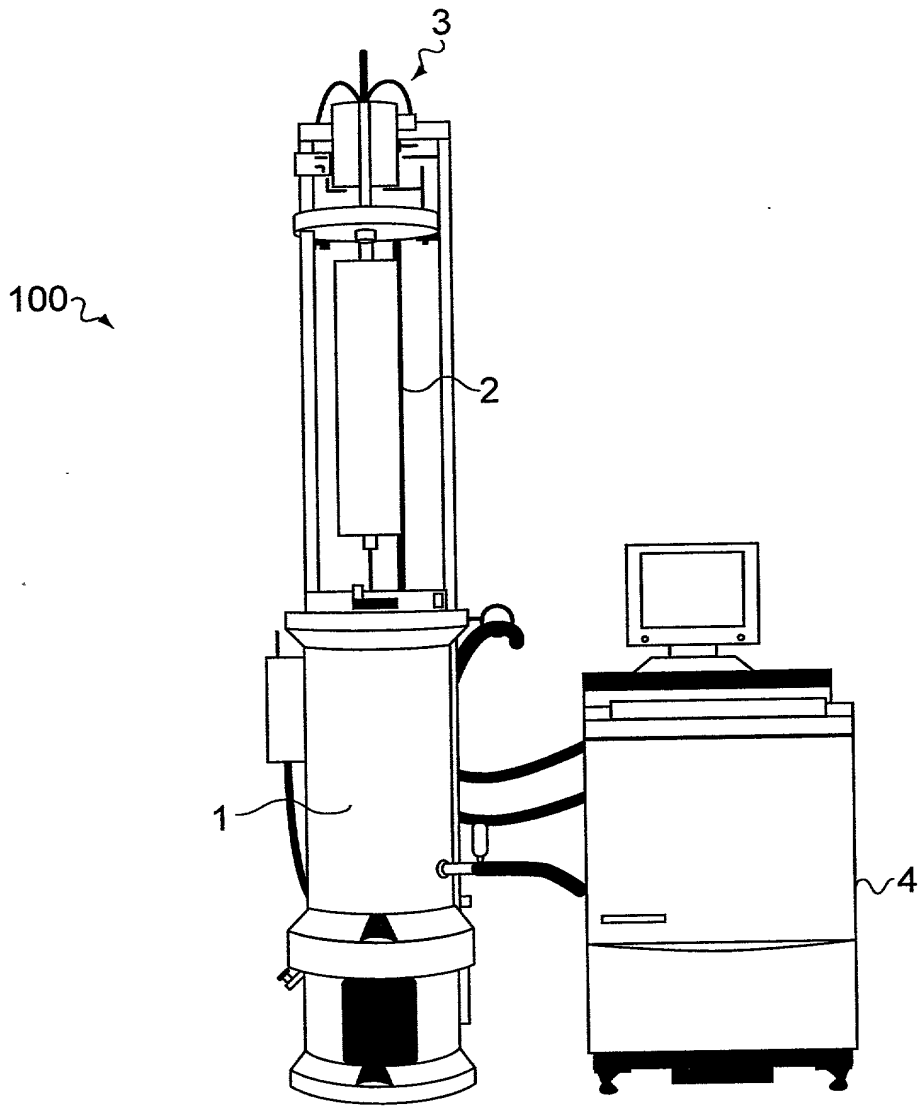

FIG. 1

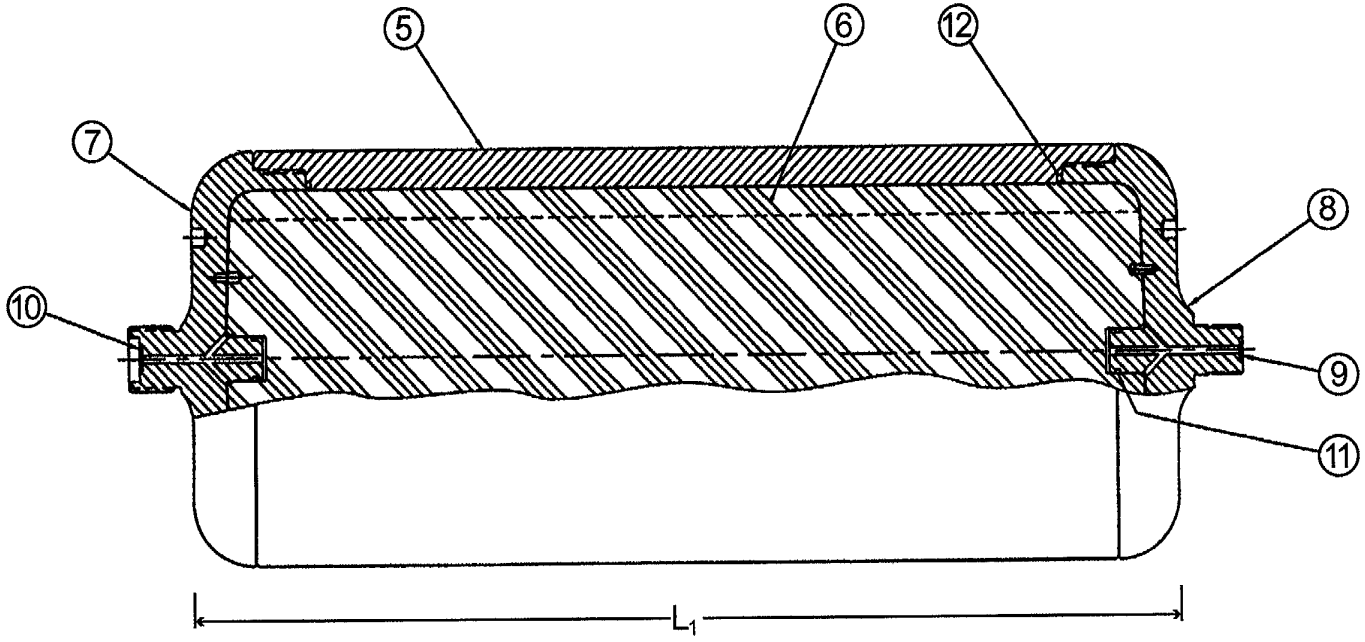

FIG. 2A

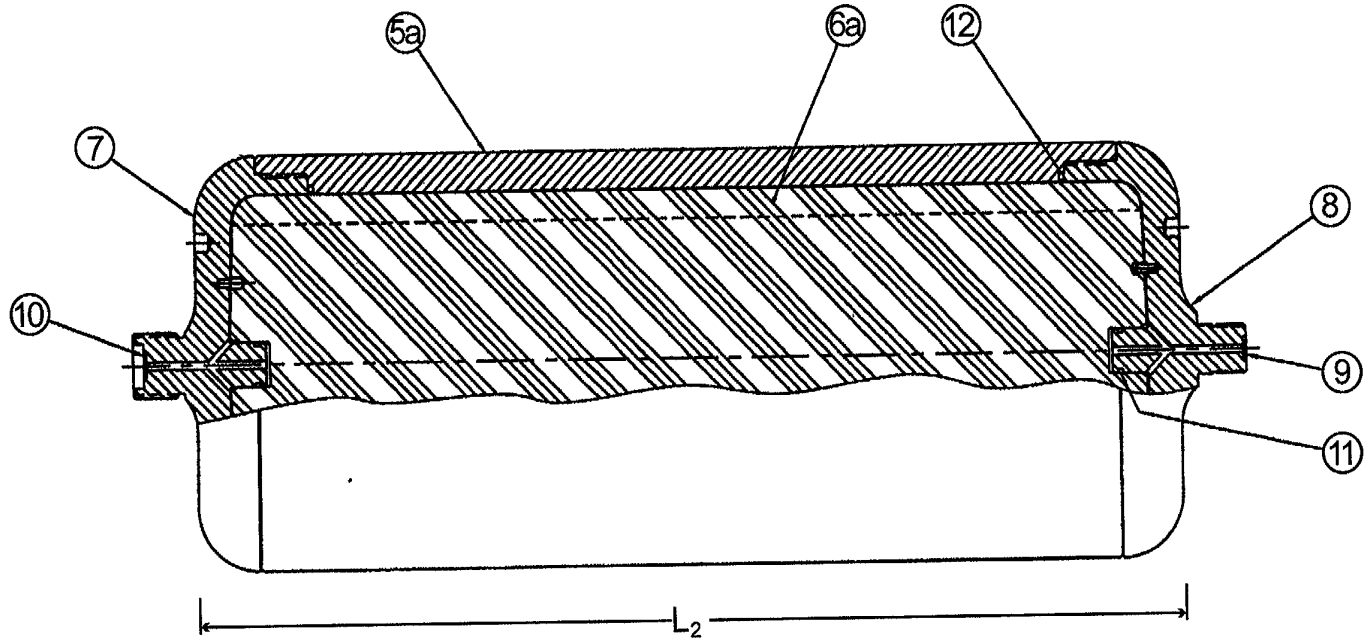

FIG. 2B

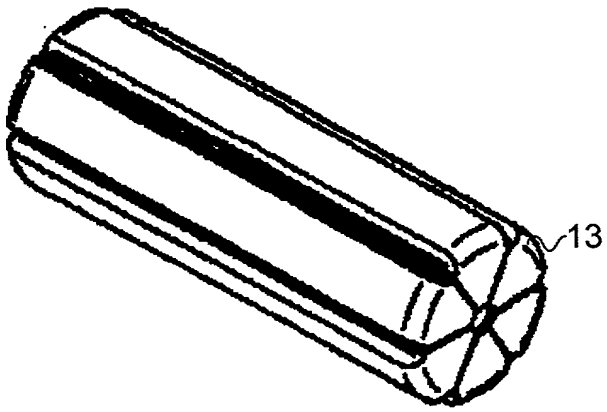

FIG. 3A

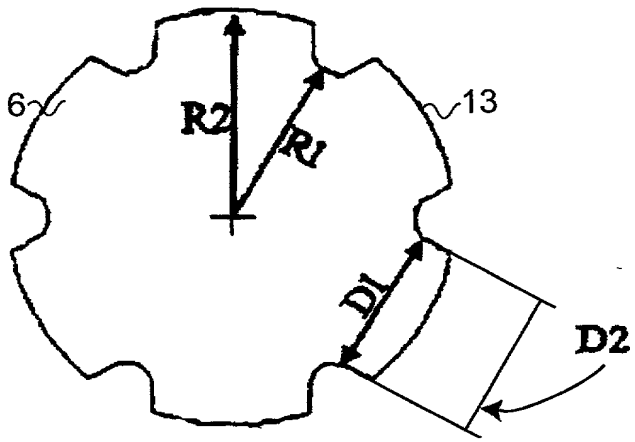

FIG. 3B

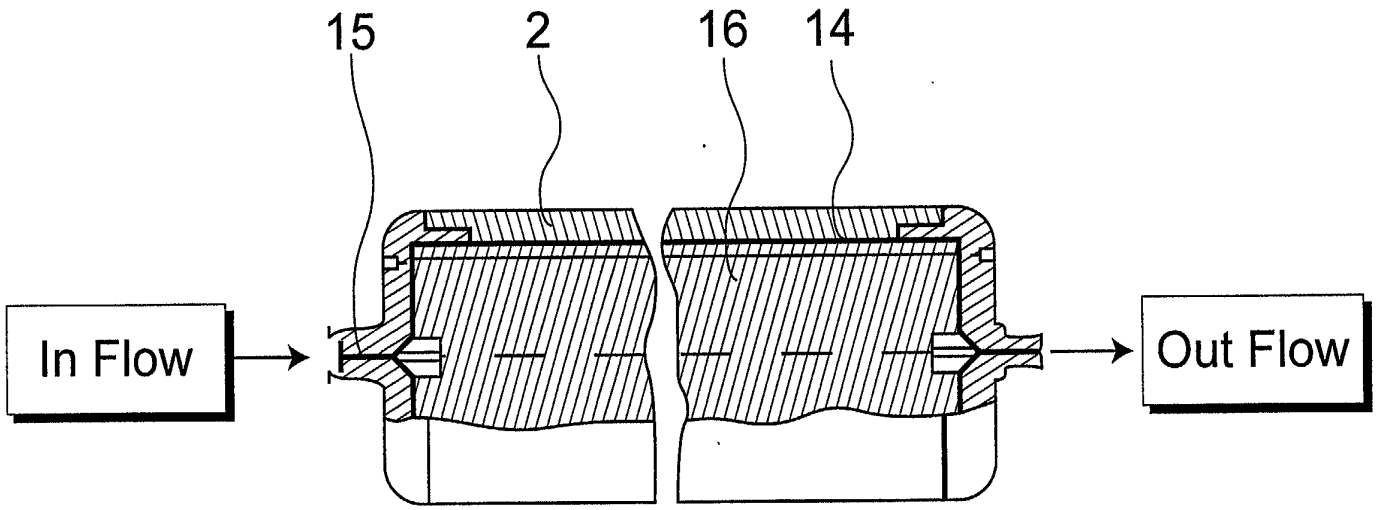

FIG. 4

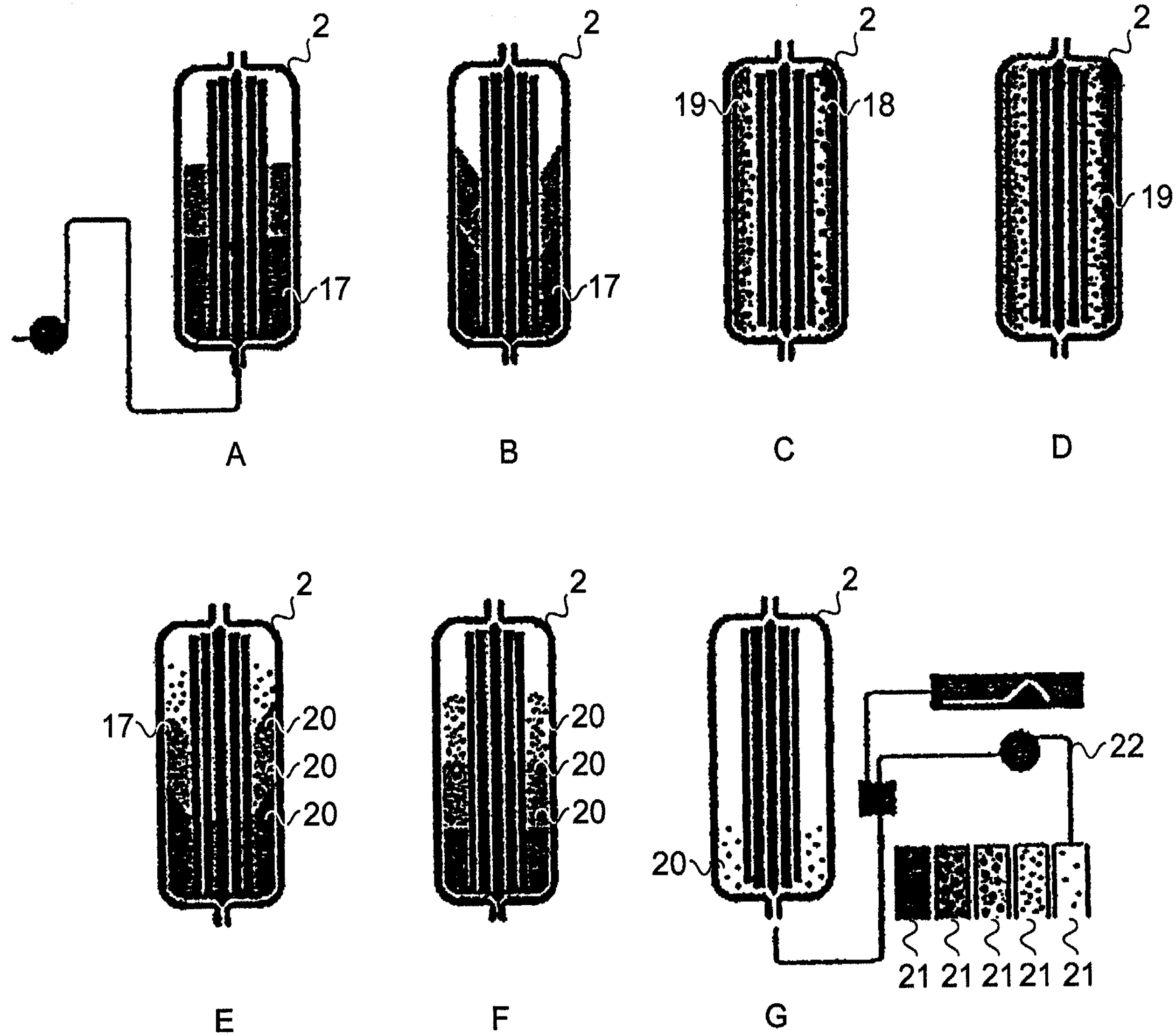
2
17
2
17
2
19
18
2
19
A
B
C
D
2
17
20
20
20
2
20
20
20
2
22
20
21
21
21
21
21
E
F
G

FIG. 5

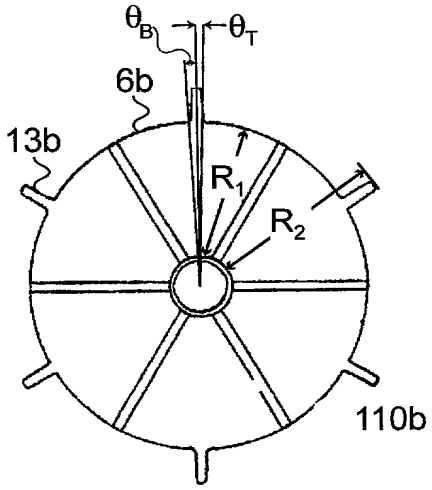

FIG. 6

66.0	R2	Outer Radius of the Core in mm	2.598	inches			
54.5	R1	Inner Radius in mm	2.145	inches			
	Theta-T	Angle formed by one-half the top fin surface in radians			0.0160	0.91527174	degrees
	Theta-B	Angle formed by one-half the bottom fin surface in radians			0.0106	0.60780781	degrees
764.3	L	Length of the Core in mm					
30.090							

V2	Total volume of the Cylinder:	10455661.2	mm^3	10456	mL	
V1	Total volume of the Core trunk:	7124023.0	mm^3	7124	mL	Outer Inner
W1	Fin Volume Component 1:	8470.4	mm^3	102	mL	26582.7 18112.27
C1	Length of the Chord formed for W2:	0.6	mm	0.023	inch	
W2	Fin Volume Component 2:	2543.2	mm^3	31	mL	3.327887 0.000295
	Available Volume:	3,199.47	mm^3	= 3.2	L	

	D1	Lateral distance across fin bottom in mm	0.114	inches	(D2+0.031") 2.8956
2.1	D2	Lateral distance across fin top in mm	0.083	inches	
0.083					

				Intermediate Terms
	Calculated Theta-T in radians	0.0160	0.915272 degrees	0.999
	Calculated (Theta-T+Theta-B) in radians	0.0266	1.52308 degrees	0.999
	Calculated Theta-B in radians	0.0106	0.607808 degrees	
	Calculated fin Wall Angle in radians	-1.5366	-88.04247 degrees	11.5189 -0.3937

FIG. 7

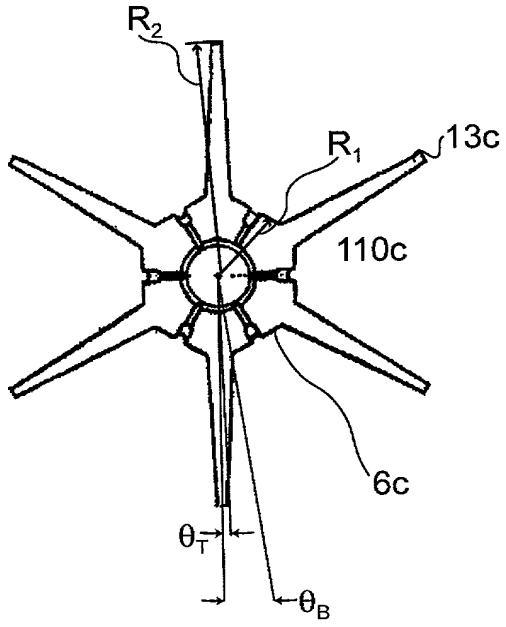

FIG. 8

66.0	R2	Outer Radius of the Core in mm	2.598	inches			
21.0	R1	Inner Radius in mm	0.825	inches			
	Theta-T	Angle formed by one-half the top fin surface in radians	0.0192	1.10275822	degrees		
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.1329	7.6119838	degrees		
754.1	L	Length of the Core in mm					
29.690							
V2	Total volume of the Cylinder:		10316669.4	mm^3	10317	mL	
V1	Total volume of the Core trunk:		1040325.2	mm^3	1040	mL	Outer Inner
W1	Fin Volume Component 1:		28415.5	mm^3	341	mL	31602.2 3186.742
C1	Length of the Chord formed for W2:		2.8	mm	0.110	inch	
W2	Fin Volume Component 2:		47172.1	mm^3	566	mL	62.6377 0.085731
	Available Volume:		8369291	mm^3	=	8.4 L	
	D1	Lateral distance across fin bottom in mm	0.250	inches	(D2+0.031")	6.3500	
2.5	D2	Lateral distance across fin top in mm	0.100	inches			
0.100							Intermediate Terms
	Calculated Theta-T in radians		0.0192	1.102758	degrees	0.999	
	Calculated (Theta-T+Theta-B) in radians		0.1521	8.714742	degrees	0.954	
	Calculated Theta-B in radians		0.1329	7.611984	degrees		
	Calculated fin Wall Angle in radians		-1.5285	-87.57776	degrees	45.0342	-1.905

FIG. 9

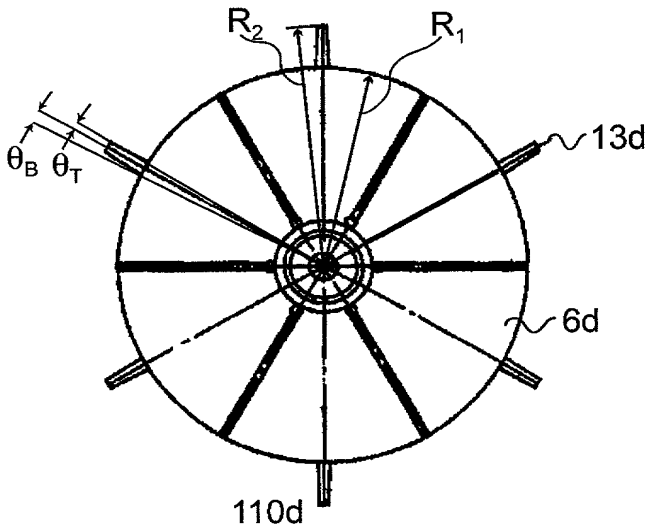

FIG. 10

66.0	R2	Outer Radius of the Core in mm	2.598	inches				
54.5	R1	Inner Radius in mm	2.145	inches				
	Theta-T	Angle formed by one-half the top fin surface in radians	0.0160	0.91527174	degrees			
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.0106	0.60780781	degrees			
762.7	L	Length of the Core in mm						
30.027								
V2	Total volume of the Cylinder:		10433770.0	mm^3	10434	mL		
V1	Total volume of the Core trunk:		7109107.3	mm^3	7109	mL	Outer	Inner
W1	Fin Volume Component 1:		8452.7	mm^3	101	mL	26527.04	18074.35
C1	Length of the Chord formed for W2:		0.6	mm	0.023	inch		
W2	Fin Volume Component 2:		2537.9	mm^3	30	mL	3.327887	0.000295
	Available Volume =		3192.73	mm^3	=	3.2	L	
	D1	Lateral distance across fin bottom in mm	0.114	inches	(D2+0.031")	2.8956		
2.1	D2	Lateral distance across fin top in mm	0.083	inches				
1.50889								
							Intermediate Terms	
	Calculated Theta-T in radians		0.0160	0.915272	degrees	0.999		
	Calculated (Theta-T+Theta-B) in radians		0.0266	1.52308	degrees	0.999		
	Calculated Theta-B in radians		0.0106	0.607808	degrees			
	Calculated fin Wall Angle in radians		-1.5366	-88.04247	degrees	11.5189	-0.3937	

FIG. 11

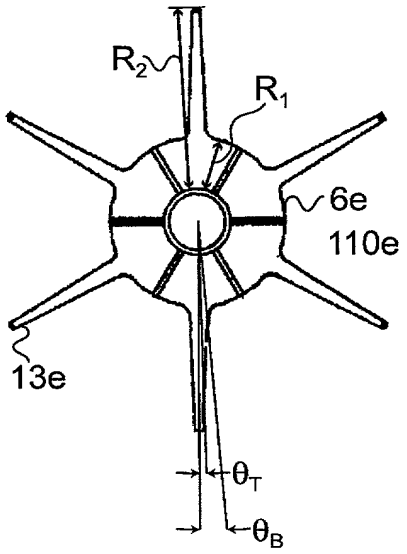

FIG. 12

66.0	R2	Outer Radius of the Core in mm	2.598	inches				
26.7	R1	Inner Radius in mm	1.052	inches				
	Theta-T	Angle formed by one-half the top fin surface in radians			0.0217	1.2461381	degrees	
	Theta-B	Angle formed by one-half the bottom fin surface in radians			0.0844	4.83798852	degrees	
764.3	L	Length of the Core in mm						
30.090								
V2	Total volume of the Cylinder:		10455661.2	mm^3	10456	mL		
V1	Total volume of the Core trunk:		1714370.5	mm^3	1714	mL	Outer	Inner
W1	Fin Volume Component 1:		30257.9	mm^3	363	mL	36192.22	5934.284
C1	Length of the Chord formed for W2:		2.3	mm	0.089	inch		
W2	Fin Volume Component 2:		33818.5	mm^3	406	mL	44.28434	0.035809
	Available Volume:		7,972.37	mm^3	=	8.0 L		
	D1	Lateral distance across fin bottom in mm			0.223	inches	(D2+0.031")	5.6642
2.9	D2	Lateral distance across fin top in mm			0.113	inches		
0.113								
							Intermediate Terms	
	Calculated Theta-T in radians		0.0217		1.246138	degrees	0.999	
	Calculated (Theta-T+Theta-B) in radians		0.1062		6.084127	degrees	0.978	
	Calculated Theta-B in radians		0.0844		4.837989	degrees		
	Calculated fin Wall Angle in radians		-1.5352		-87.96252	degrees	39.2684	-1.397

FIG. 13

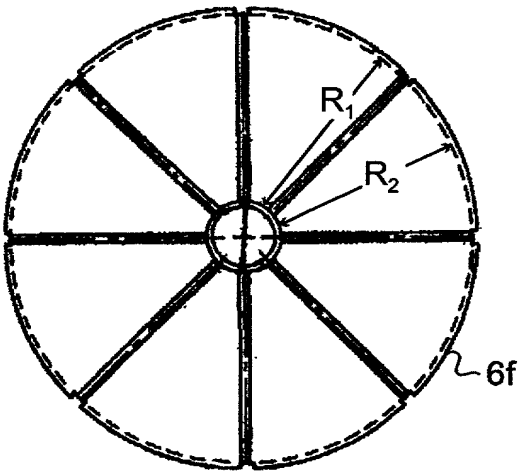

FIG. 14

66.0	R2	Outer Radius of the Core in mm	2.598	inches		
65.0	R1	Inner Radius in mm	2.561	inches		
	Theta-T	Angle formed by one-half the top fin surface in radians	0.0000		0	degrees
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.0000		0	degrees
764.3	L	Length of the Core in mm				
30.090						

V2	Total volume of the Cylinder:	10455661.2	mm^3	10456	mL	
V1	Total volume of the Core trunk:	10159968.6	mm^3	10160	mL	
W1	Fin Volume Component 1:	0.0	mm^3	0	mL	Outer 0 Inner 0
C1	Length of the Chord formed for W2:	0.0	mm	0.000	inch	
W2	Fin Volume Component 2:	0.0	mm^3	0	mL	0 0
	Available Volume:	295691	mm^3	= 0.3	L	

	D1	Lateral distance across fin bottom in mm	0.000	inches	(D2+0.031") 0.0000
0.0	D2	Lateral distance across fin top in mm	0.000	inches	
0.0000					

				Intermediate Terms	
Calculated Theta-T in radians	0.0000	0	degrees	1.000	
Calculated (Theta-T+Theta-B) in radians	0.0000	0	degrees	1.000	
Calculated Theta-B in radians	0.0000	0	degrees		
Calculated fin Wall Angle in radians	#DIV/0!	#DIV/0!	degrees	0.9398	0

FIG. 15

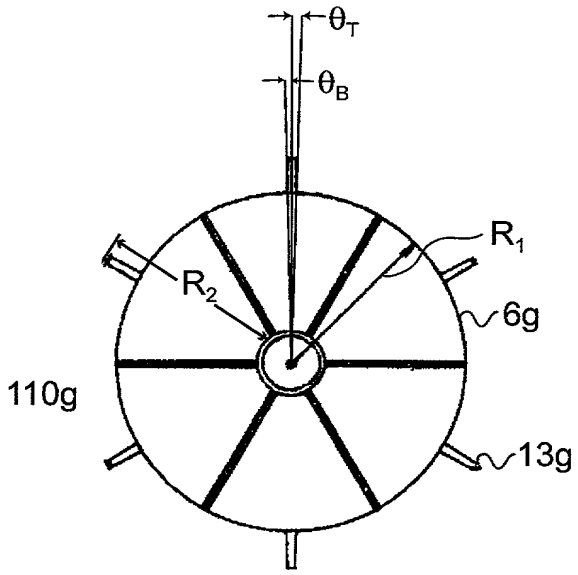

FIG. 16

66.0	R2	Outer Radius of the Core in mm	2.598	inches	5.196	
54.5	R1	Inner Radius in mm	2.145	inches	4.29	
	Theta-T	Angle formed by one-half the top fin surface in radians	0.0160	0.91527174	degrees	
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.0106	0.6074527	degrees	
382.1	L	Length of the Core in mm				

V2	Total volume of the Cylinder:	5227135.7	mm^3	5227	mL	
V1	Total volume of the Core trunk:	3563198.9	mm^3	3563	mL	
W1	Fin Volume Component 1:	4230.4	mm^3	51	mL	
C1	Length of the Chord formed for W2:	0.6	mm	0.023	inch	
W2	Fin Volume Component 2:	1269.6	mm^3	15	mL	
	Available Volume:	1597040	mm^3	1.6	L	

	D1	Lateral distance across fin bottom in mm	0.114	inches	(D2+0.031")	2.8956
2.1	D2	Lateral distance across fin top in mm	0.083	inches		
0.083						

				Intermediate Terms	
Calculated Theta-T in radians	0.0160	0.915272	degrees	0.999	
Calculated (Theta-T+Theta-B) in radians	0.0266	1.522724	degrees	0.999	
Calculated Theta-B in radians	0.0106	0.607453	degrees		
Calculated fin Wall Angle in radians	-1.5366	-88.04031	degrees	11.5062	-0.3937

	Outer	Inner
	13289.58	9059.154
	3.32305	0.000295

FIG. 17

66.0	R2	Outer Radius of the Core in mm	2.598	inches		
54.5	R1	Inner Radius in mm	2.145	inches		
	Theta-T	Angle formed by one-half the top fin surface in radians			0.2521	14.4433492 degrees
	Theta-B	Angle formed by one-half the bottom fin surface in radians			0.0625	3.57949303 degrees
382.1	L	Length of the Core in mm				

V2	Total volume of the Cylinder:	5227135.7 mm^3	5227 mL		
V1	Total volume of the Core trunk:	3561538.0 mm^3	3562 mL	Outer	Inner
W1	Fin Volume Component 1:	66824.5 mm^3	802 mL	209714.8	142890.4
C1	Length of the Chord formed for W2:	3.4 mm	0.134 inch		
W2	Fin Volume Component 2:	7405.1 mm^3	89 mL	19.44062	0.060277
	Available Volume	[illegible] mm^3	= 0.8 L		

	D1	Lateral distance across fin bottom in mm	1.327	inches	(D2+0.031")	33.7058
32.9	D2	Lateral distance across fin top in mm	1.296	inches		
1.296						

			Intermediate Terms	
Calculated Theta-T in radians	0.2521	14.44335 degrees	0.876	
Calculated (Theta-T+Theta-B) in radians	0.3146	18.02284 degrees	0.809	
Calculated Theta-B in radians	0.0625	3.579493 degrees		
Calculated fin Wall Angle in radians	-1.5366	-88.04247 degrees	11.5189	-0.3937

FIG. 18

66.0	R2	Outer Radius of the Core in mm	2.598	inches	5.196	
54.5	R1	Inner Radius in mm	2.145	inches	4.29	
	Theta-T	Angle formed by one-half the top fin surface in radians	0.3640	20.8573877	degrees	
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.0899	5.14837464	degrees	
382.1	L	Length of the Core in mm				

V2	Total volume of the Cylinder:	5227135.7	mm^3	5227	mL	
V1	Total volume of the Core trunk:	3563198.9	mm^3	3563	mL	
W1	Fin Volume Component 1:	96403.8	mm^3	1157	mL	
C1	Length of the Chord formed for W2:	4.9	mm	0.193	inch	
W2	Fin Volume Component 2:	10511.8	mm^3	126	mL	
	Available Volume:	380355	mm^3	= 0.4	L	

	D1	Lateral distance across fin bottom in mm	1.881	inches	(D2+0.031")	47.7774
47.0	D2	Lateral distance across fin top in mm	1.850	inches		
1.850						

			Intermediate Terms	
Calculated Theta-T in radians	0.3640	20.85739 degrees	0.746	
Calculated (Theta-T+Theta-B) in radians	0.4539	26.00576 degrees	0.616	
Calculated Theta-B in radians	0.0899	5.148375 degrees		
Calculated fin Wall Angle in radians	-1.5366	-88.04031 degrees	11.5062	-0.3937

Outer 302845.5 Inner 206441.7

27.69047 0.179394

FIG. 19

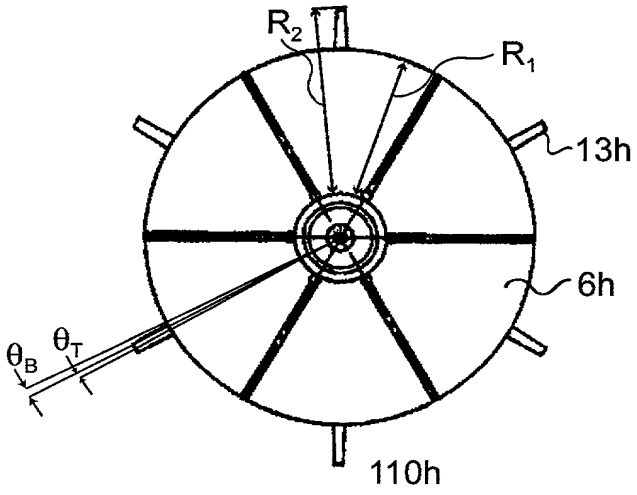

FIG. 20

66.0	R2	Outer Radius of the Core in mm	2.598	inches
54.5	R1	Inner Radius in mm	2.145	inches
	Theta-T	Angle formed by one-half the top fin surface in radians	0.0219	1.25716763 degrees
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.0119	0.6802237 degrees
380.5	L	Length of the Core in mm		

V2	Total volume of the Cylinder:	5205244.4	mm^3	5205	mL	
V1	Total volume of the Core trunk:	3546622.3	mm^3	3547	mL	Outer Inner
W1	Fin Volume Component 1:	5792.1	mm^3	70	mL	18177.4 12385.27
C1	Length of the Chord formed for W2:	0.6	mm	0.025	inch	
W2	Fin Volume Component 2:	1416.9	mm^3	17	mL	3.724271 0.000414
	Available Volume =	1572.1	mm^3	=	1.6	L

	D1	Lateral distance across fin bottom in mm	0.145	inches	(D2+0.031") 3.6830
2.9	D2	Lateral distance across fin top in mm	0.114	inches	
0.114					

				Intermediate Terms	
	Calculated Theta-T in radians	0.0219	1.257168 degrees	0.999	
	Calculated (Theta-T+Theta-B) in radians	0.0338	1.937391 degrees	0.998	
	Calculated Theta-B in radians	0.0119	0.680224 degrees		
	Calculated fin Wall Angle in radians	-1.5366	-88.04247 degrees	11.5189	-0.3937

FIG. 21

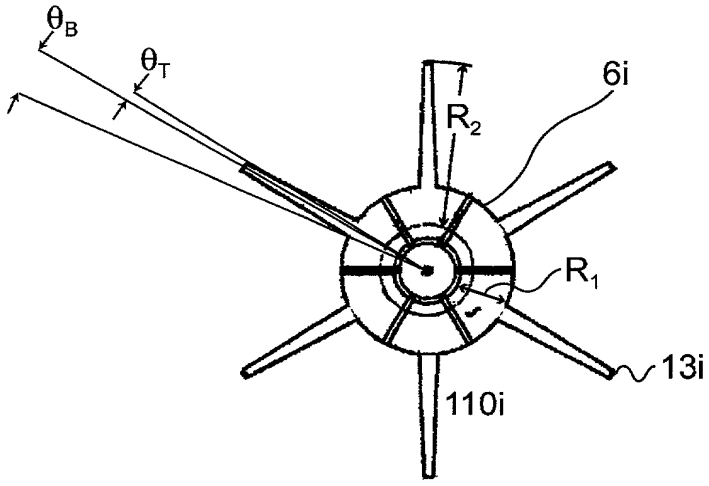

FIG. 22

66.0	R2	Outer Radius of the Core in mm	2.598	inches			
26.7	R1	Inner Radius in mm	1.052	inches			
	Theta-T	Angle formed by one-half the top fin surface in radians			0.0217	1.2461381	degrees
	Theta-B	Angle formed by one-half the bottom fin surface in radians			0.1276	7.30918223	degrees
382.1	L	Length of the Core in mm					
15.043							
V2	Total volume of the Cylinder:		5227135.7	mm^3	5227	mL	
V1	Total volume of the Core trunk:		857071.3	mm^3	857	mL	Outer Inner
W1	Fin Volume Component 1:		15127.0	mm^3	182	mL	18093.7 2966.748
C1	Length of the Chord formed for W2:		3.4	mm	0.134	inch	
W2	Fin Volume Component 2:		25506.7	mm^3	306	mL	66.87882 0.123425
	Available Volume:		3904882.461	mm^3	= 3.9	L	
	D1	Lateral distance across fin bottom in mm	0.313	inches	(D2+0.031")	7.9502	
2.9	D2	Lateral distance across fin top in mm	0.113	inches			
0.113							

			Intermediate Terms	
Calculated Theta-T in radians	0.0217	1.246138 degrees	0.999	
Calculated (Theta-T+Theta-B) in radians	0.1493	8.55532 degrees	0.956	
Calculated Theta-B in radians	0.1276	7.309182 degrees		
Calculated fin Wall Angle in radians	-1.5062	-86.29909 degrees	39.2684	-2.54

FIG. 23

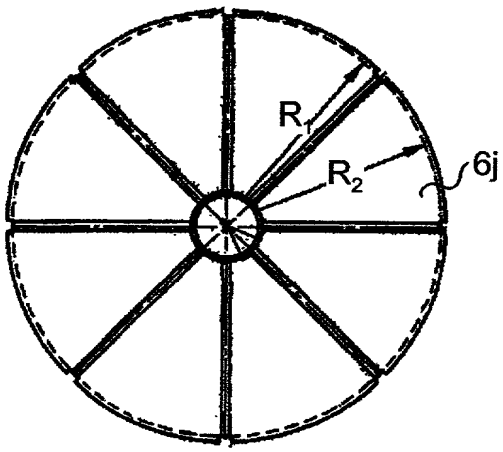

FIG. 24

66.0	R2	Outer Radius of the Core in mm	2.598	inches			
65.0	R1	Inner Radius in mm	2.561	inches			
	Theta-T	Angle formed by one-half the top fin surface in radians	0.0000		0	degrees	
	Theta-B	Angle formed by one-half the bottom fin surface in radians	0.0000		0	degrees	
382.1	L	Length of the Core in mm					
15.043							
V2	Total volume of the Cylinder:		5227135.7	mm^3	5227	mL	
V1	Total volume of the Core trunk:		5079309.0	mm^3	5079	mL	Outer Inner
W1	Fin Volume Component 1:		0.0	mm^3	0	mL	0 0
C1	Length of the Chord formed for W2:		0.0	mm	0.000	inch	
W2	Fin Volume Component 2:		0.0	mm^3	0	mL	0 0
	Available Volume:		147837.3	mm^3	= 0.1	L	
	D1	Lateral distance across fin bottom in mm	0.000	inches	(D2+0.031")	0.0000	
0.0	D2	Lateral distance across fin top in mm	0.000	inches			
0.0000							
							Intermediate Terms
	Calculated Theta-T in radians		0.0000		0	degrees	1.000
	Calculated (Theta-T+Theta-B) in radians		0.0000		0	degrees	1.000
	Calculated Theta-B in radians		0.0000		0	degrees	
	Calculated fin Wall Angle in radians		#DIV/0!		#DIV/0!	degrees	0.9398 0

FIG. 25

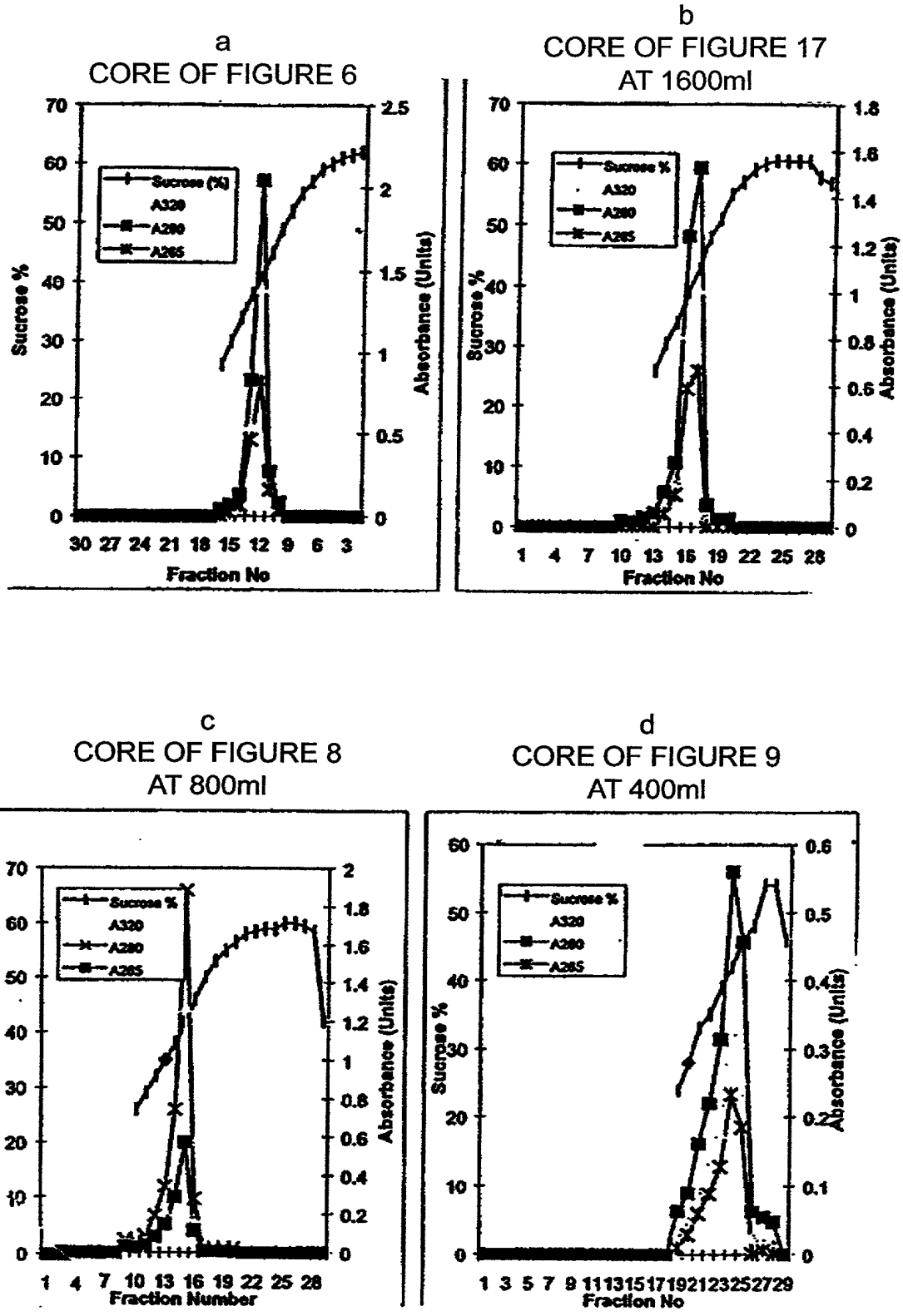
a
CORE OF FIGURE 6
b
CORE OF FIGURE 17
AT 1600ml
c
CORE OF FIGURE 8
AT 800ml
d
CORE OF FIGURE 9
AT 400ml
Sucrose %
A320
A280
A265
Absorbance (Units)
Fraction No
Fraction Number

FIG. 26